

**TIAMA**

*(SOCIETE ANONYME A CONSEIL DE SURVEILLANCE ET DIRECTOIRE)*

*(Public limited company with Supervisory Board and Board of Management)*

**ILLUMINATION METHOD AND DEVICE TO DETECT SURFACE  
DEFECTS AND/OR MATERIAL SHORTAGE  
ON THE NECK RING OF A CONTAINER**

**ABSTRACT:**

The invention concerns an optical method for determining surface defects and/or material shortage on the neck ring (3) of a container having an axis of symmetry (X), the method comprising the following steps: illuminating the surface (s) of the neck ring (3) of the container with an incident light beam and collecting, via a line scan camera, the light beams reflected by the neck ring of the container, in order to determine the presence of any surface defect and/or material shortage.

The method of the invention consists of obtaining a uniform ring of light (C) converging towards a point of convergence located on the axis of symmetry (X) of the container and having a variable diameter (D) and/or variable width (E), and of selecting the diameter (D) of the convergent ring of light (C) at a given value in relation to a desired mean angle of incidence ( $\alpha$ ) to illuminate the surface (s) of the neck ring (3) of the container and/or selecting the width (E) of the convergent uniform ring of light (C) at a given value in relation to the width (L) of surface (s) of the neck ring (3) of the container.

(Figure to be published: **fig. 2**)